Appendix 2-A

SOIL TEST REPORTS

SCOPE

This appendix includes test results from soil samples taken on proposed plant growth material to determine suitability for reclamation procedures.

1984

In order to determine feasibility and suitability of downcast and off site substitute topsoil materials, the following soil inventory and survey were conducted in 1984:

METHODOLOGY

On March 24, 1984, M. A. Coonrod, Compliance and permitting Coordinator for the mine, sampled soil along the old portal road, topsoil purchased off site and the existing topsoil pile. The sample procedure for each site is as follows:

Existing Topsoil Stockpile (Sample 1D_P1).

A randomly selected spot was determined by walking 10 paces up the pile from a random point selected by throwing a marker onto the pile. A 14 in. tile spade was utilized to excavate a hole 24 in. in depth and approx 18 in. in diameter. A silver of soil approx 1 in. x 4 in. was sliced from top to bottom of the excavation. The material was placed in a clean plastic bag and sealed (approx 3 lbs) Rock larger than approx 1 in. dia were avoided in containerizing the sample.

Loadout Alternative Soil Substitute (Sample 1D_P2).

Co-Op has purchased approx 80 acres along the Price river, Carbon County, Utah from R. D. Campbell. A portion of the site had the topsoil stripped and stockpiled. The same sample methodology implemented on the existing topsoil pile at the mine was utilized at this alternative soil substitute.

Road Fill (Sample ID FR_3 st 1,3 & 6).

This material was sampled at 200 ft intervals from the down slope of the fill in the area of the portal road intersection to the non-coal storage site along Bear Creek. Each sample was taken 3 ft from the toe of the down-cast material. A 14 in. tile spade was used to excavate approx 1 ft into the fill material and a grab sample (Approx 1 lb of material) was taken at each site. All samples were consolidated into 3-5 gallon plastic buckets labeled 1, 3 and 6.

At the conclusion of the survey, all samples were consolidated and mixed. From this consolidated material, a sample of approx 8 lbs was placed into a clean plastic bag. All samples were hand carried to Standard Laboratories north of Huntington, Utah on March 24, 1984.

1991

In order to determine feasibility and suitability of in-place spoils as final reclamation substitute plant growth materials an extensive testing program was implemented. Test results and a report made by Mt. Nebo Scientific reviewing the material is included as Appendix 2-D. Three soil samples were tested for the shower house pad. Ref-1 is found in Appendix 2-D. Results from Ref-2 and Ref-3 are found in this appendix.

RESULTS AND CONCLUSIONS

Attached are copies of the laboratory results. It appears that all materials on site as well as the off site substitute (Ball Park Topsoil Storage) are compatible and capable of establishing and maintaining a diverse vegetative community consistent with the existing reference area. The use of the acceptable in-place materials as substitute plant growth eliminates additional impact on the environment which would result from having to "borrow" material from undisturbed areas as a substitute, and therefore results in the best available material to use for plant growth with no additional environmental impact.

Prior to implementing reclamation, all soils will be tested again to determine the need for both type and quantity of desired fertilizers to insure rapid establishment of vegetation. See R645-301-243.

SOIL TEST REPORT

NO. 7404.0

AGRICULTURAL CONSULTANTS, INC.

P O. DRAWER 507 — 240 S. FIRST AVENUE
BRIGHTON, COLORADO 80601
303/659-2313

DATE RCVD 11-12-82

REPORTED 11-23-82

REPORT TO: CO-OP MINING COMPANY ATTN: MR. OWEN

BILL TO: SAME

GROWER: SAME

SAMPLE ID: BEAR UPPER PAD

TEXTURE (silt, silty loam, sand, sandy loam, loam, clay)	pH		CEC Meq /100g	SALT Mmhos /cm	Na Meq /100g	Lime %	OM %	Org N Lbs	AVAILABLE NUTRIENTS ppm (1)										
	H_2O	Buf							NO_3	P(2)	K(2)	Ca	Mg	S(2)	B	Zn	Fe	Mn	Cu
L LO	8.3	7.0	9.5	1.9	0.2	8.7	0.9	31.5	9	1	44	2700	250	58	0.2	0.4	1.5	1.1	0.3

CROP	YIELD GOAL	CROP RESIDUE T/A	MNR T/A	RECOMMENDATIONS POUNDS PER ACRE											
				N	P_2O_5	K_2O	Elem Sulfer	Lime	Mg	SO_4-S	Boron	Zinc	Iron	Mn	Cu
L Native Grasses	Average	-	0	50	30	20	0	0	0	0	0	0	0	0	0

1 ppm=parts per million or lbs element per million lbs soil. ppm x 2 = lbs/acre 6-7" depth. ppm x 3.5 = lbs/acre 1st. 2. P x 2.3 = P_2O_5 K x 1.2 = K_2O S x 3 =

Values reported but without specific remarks are considered to be within growth range of intended crop.

If poor moisture conditions reduce fertilization accordingly.

Supervised by _____

ATTACHMENT 1-A

SOIL TEST REPORT

NO. 7405.0

AGRICULTURAL CONSULTANTS, INC.
P.O. DRAWER 507 — 240 S. FIRST AVENUE
BRIGHTON, COLORADO 80601
303/659-2313

DATE RCVD 11-12-82

REPORTED 11-23-82

REPORT TO: CO-OP MINING COMPANY ATTN: MR. OWEN

BILL TO: SAME

GROWER: SAME

SAMPLE ID: BEAR POWER POLE

TEXTURE (sand, silty sand, sandy loam, loam, clay)	pH		CEC Meq /100g	SALT Mmhos /cm	Na Meq /100g	Lime %	OM %	Org N Lbs	AVAILABLE NUTRIENTS ppm (1)									
	H_2O	Buf							NO_3	P(2)	K(2)	Ca	Mg	S(2)	B	Zn	Fe	Mn	Cu
	9.0	7.0	38.7	4.6	0.3	9.1	1.8	45.0	6	1	90	9900	510	204	0.6	0.4	4.6	1.4	0.4

CROP	YIELD GOAL	CROP RESIDUE T/A	MNR T/A	RECOMMENDATIONS POUNDS PER ACRE											
				N	P_2O_5	K_2O	Elem Sulfer	Lime	Mg	SO_4-S	Boron	Zinc	Iron	Mn	Cu
DL Native Grasses	Average	-	0	50	50	90	0	0	0	0	0	0	0	0	0

1.ppm=parts per million or lbs element per million lbs soil. ppm x 2 = lbs/acre 6-7" depth. ppm x 3.5 = lbs/acre feet. 2. P x 2.3 = P_2O_5 K x 1.2 = K_2O S x 3 =
Values reported but without specific remarks are considered to be within growth range of intended crop.

If poor moisture conditions reduce fertilization accordingly.

Supervised by Diana Lansing

AT: MENFI-A

SOIL TEST REPORT

AGRICULTURAL CONSULTANTS, INC.
P.O. DRAWER 307 — 340 S. FIRST AVENUE
BRIGHTON, COLORADO 80601
303/659-2313

NO. 7404.0

DATE RCVD 11-12-92

REPORTED 11-23-92

REPORT TO: CO-OP MINING COMPANY ATTN: MR. OWEN

BILL TO: SAME

GROWER: SAME

SAMPLE ID: SCALES BEAR

TEXTURE	pH		CEC	SALT	Na	Lime	OM	Org N	AVAILABLE NUTRIENTS ppm (1)									
	H_2O	Buf	Meq /100g	Mmhos /cm	Meq /100g	%	%	Lbs	NO_3	P(2)	K(2)	Ca	Mg	S(2)	B	Zn	Fe	Mn	Cu
LD	8.3	7.0	11.1	1.0	0.2	8.6	1.3	45.5	8	3	99	3400	210	31	0.6	0.6	3.8	2.0	0.3

CROP	YIELD GOAL	CROP RESIDUE T/A	MNR T/A	RECOMMENDATIONS POUNDS PER ACRE											
				N	P_2O_5	K_2O	Elem Sulfur	Lime	Mg	SO_4-S	Boron	Zinc	Iron	Mn	Cu
DL Native Grasses	Average	-	0	40	50	50	0	0	0	0	0	0	0	0	0

1.ppm=parts per million or lbs element per million lbs soil. ppm x 2 = lbs/acre 6-7" depth. ppm x 3.5 = lbs/acre feet. 2. P x 2.3 = P_2O_5 K x 1.2 = K_2O S x 3

Values reported but without specific remarks are considered to be within growth range of intended crop.

If poor moisture conditions reduce fertilization accordingly.

Advised by Diane Lansing

ATTACHMENT 4-A

Branch Code 43
(see reverse)

Lab. No. 43728

Date Rec'd. 3-24-84

Date Sampled 3-24-84

Sampled By Yourselves

STANDARD LABORATORIES, INC.

Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Sample ID: RF-3 Road Fill St 1, 3 & 6

ACID-BASE ACCOUNTABILITY

				$CaCO_3$ Equiv. (Tons/1000 Tons Material)		
Color	Paste pH	Fizz	% Sul.	Max from % Sul.	Amount Present	Excess
10YR7/2	7.75	5	< 0.001	< 0.03	242.77	242.74

NUTRIENTS:

Phosphorus = 14.9 pp2m (Sodium Bicarbonate Extractable)

Magnesium = 0.77 Tons/1000 Tons material (Double Acid Extractable)

Potassium = 0.05 Tons/1000 Tons Material (Double Acid Extractable)

Calcium = 8.1 Tons/1000 Tons material (Double Acid Extractable)

Nitrate-N = 270 ppm (Phenoldisulfonic Acid Method)

Respectfully Submitted,

Lab. No. 4372e

Date Rec'd. 3-24-34

Date Sampled 3-24-34

Sampled By Yourselves

STANDARD LABORATORIES, INC.

Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Sample ID: P1 Existing Topsoil Stockpile

ACID-BASE ACCOUNTABILITY

				$CaCO_3$ Equiv. (Tons/1000 Tons Material)		
Color	Paste pH	Fizz	% Sul.	Max from % Sul.	Amount Present	Excess
10YR7/2	7.95	5	< 0.001	< 0.03	290.00	289.97

NUTRIENTS:

Phosphorus = 18.7 pp2m (Sodium Bicarbonate Extractable)

Magnesium = 0.50 Tons/1000 Tons material (Double Acid Extractable)

Potassium = 0.05 Tons/1000 Tons material (Double Acid Extractable)

Calcium = 8.3 Tons/1000 Tons material (Double Acid Extractable)

Nitrate-N = 180 ppm (Phenoldisulfonic Acid Method)

Respectfully Submitted

AUG 2 0 1984

Lab. No. 43727

Date Rec'd 3-24-84

Date Sampled 3-24-84

Sampled By Yourselves

STANDARD LABORATORIES, INC.

Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Sample ID: P2 Loadout Alternative Soil Substitute

ACID-BASE ACCOUNTABILITY

				$CaCO_3$ Equiv. (Tons/1000 Tons Material)		
Color	Paste pH	Fizz	% Sul.	Max from % Sul	Amount Present	Excess
10yr7/2	7.50	5	<0.001	< 0.03	226.43	226.40

NUTRIENTS:

Phosphorus = 24.0 ppm (Sodium Bicarbonate Extractable)

Magnesium = 0.52 Tons/1000 Tons material (Double Acid Extractable)

Potassium = 0.05 Tons/1000 Tons material (Double Acid Extractable)

Calcium = 8.4 Tons/1000 Tons material (Double Acid Extractable)

Nitrate-N = 1400 ppm (Phenoldisulfonic Acid Method)

Respectfully Submitted

AUG 20 1984

April 24, 1985

Wendell Owen
Co-op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Dear Mr. Owen:

Pursuant to your request, please be advised that C.O.P. Coal Development Company hereby grants permission to Co-op Mining Company to store top soil, as needed or requested by the State of Utah, on C.O.P. property in the ball park area at Bear Canyon.

C.O.P. COAL DEVELOPMENT CO.

BY Joseph O. Kingston
Vice President

RECEIVED
MAY 2 1985

Inter·Mountain Laboratories, Inc.
2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

CO-OP Mining Company
Huntington, UT
MINE: Bear Canyon Mine

Date reported: May 25, 1989

Lab Nr	Location	Depths	pH	EC mmhos/cm @ 25C	Saturation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Coarse Fragments %	Sand %	Silt %	Clay %	Texture
3998	PR-1	0.0-0.0	7.9	3.61	30.1	11.5	22.2	12.2	2.97	21.0	56.4	30.3	13.3	SANDY LOAM
3999	PR-2	0.0-0.0	7.8	2.74	33.5	13.2	15.7	5.27	1.39	33.1	56.0	32.5	11.5	SANDY LOAM
4000	BP-1	0.0-0.0	7.8	3.28	34.9	16.5	20.2	5.60	1.31	30.1	49.6	37.1	13.3	LOAM

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available

Inter-Mountain Laboratories, Inc.
2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

CO-OP Mining Company
Huntington, UT
MINE: Bear Canyon Mine

Date reported: May 25, 1989

Lab No.	Location	Depths	Organic Carbon %	Carbonate %	P ppm	K ppm	Nitrate-Nitrogen ppm	Alkalinity PE meq/l	Total Kjeldahl Nitrogen %	1/3 bar %	15 bar %
3998	PR-1	0.0-0.0	0.70	25.8	1.10	44.0	4.64	2.11	0.06	14.71	4.96
3999	PR-2	0.0-0.0	2.6	28.3	1.84	49.0	2.84	2.24	0.05	18.48	7.08
4000	BP-1	0.0-0.0	0.58	21.9	2.98	86.0	30.6	2.15	0.08	19.20	6.75

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble,ABPTA= Ammonium Bicarbonate-DPTA, AAO= Acid Ammonium Oxalate

Inter-Mountain Laboratories, Inc.
2506 West Main Street | Farmington, New Mexico 87401 | Tel. (505) 326-4737

CO-OP MINING COMPANY
HUNTINGTON, UTAH
MINE: BEAR CANYON

DATE REPORTED: March 13, 1992

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Saturation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Coarse Fragments %	Sand %	Silt %	Clay %	Texture
16326	REF-2	0-4	7.4	0.80	31.9	6.55	1.05	0.46	0.24	3.2	59.6	34.0	6.4	SANDY LOAM
16327		4-8	7.4	1.70	35.0	17.9	1.00	0.41	0.13	3.8	50.5	43.1	6.4	SANDY LOAM
16328		8-24	7.3	2.81	32.0	29.8	8.70	0.66	0.15	6.6	52.4	40.3	7.3	SANDY LOAM
16329		24-36	7.4	2.76	30.4	29.5	8.64	0.64	0.15	16.6	51.5	40.3	8.2	LOAM
16330	REF-3	0-4	7.7	0.63	22.1	4.53	1.64	0.92	0.52	55.0	75.1	20.4	4.5	LOAMY SAND
16331		4-8	7.7	0.58	23.1	3.94	1.86	0.91	0.53	29.9	69.6	24.0	6.4	SANDY LOAM
16332		8-24	7.5	1.52	25.4	11.6	7.62	1.31	0.42	26.5	59.6	31.3	9.1	SANDY LOAM
16333		24-36	7.5	1.41	25.5	10.3	7.74	1.25	0.42	30.3	63.3	28.5	8.2	SANDY LOAM

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available

Inter·Mountain Laboratories, Inc.
2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

CO-OP MINING COMPANY
HUNTINGTON, UTAH
MINE: BEAR CANYON

DATE REPORTED: March 13, 1992

Lab No.	Location	Depths	Organic Matter %	Carbonate %	P ppm	K PE meq/l	Alkalinity PE meq/l	Bulk Density *	Total Kjeldahl Nitrogen %	1/3 bar	15 bar	Water Retention Difference in/in*
16326	REF-2	0-4	1.2	20.7	4.10	0.65	3.83	1.5	0.06	12.3	5.6	0.1
16327		4-8	1.3	20.4	2.14	0.52	3.76	1.4	0.09	14.2	6.3	0.1
16328		8-24	0.6	21.5	1.27	0.98	3.30	1.5	0.06	13.6	6.3	0.1
16329		24-36	0.4	21.8	1.16	1.00	2.98	1.5	0.06	13.0	6.3	0.1
16330	REF-3	0-4	1.5	23.4	1.42	0.31	3.57	1.7	0.04	8.5	4.3	<0.1
16331		4-8	0.8	25.8	1.16	0.24	3.71	1.5	0.03	9.5	4.6	0.1
16332		8-24	0.7	31.4	1.57	0.34	4.01	1.9	0.04	13.0	6.0	0.1
16333		24-36	0.7	29.3	0.98	0.37	3.98	1.8	0.04	12.1	5.6	0.1

* Air dry bulk density was substituted for 1/3 bar bulk density.
Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble,ABPTA= Ammonium Bicarbonate-DPTA, AAO= Acid Ammonium Oxalate

Inter·Mountain Laboratories, Inc.
2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

MANGUM ENGINEERING
KAYSVILLE, UTAH
MINE: CO-OP

DATE REPORTED: January 8, 1993

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Saturation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Coarse Fragments > 2 mm, % by Vol.	Sand %	Silt %	Clay %	Texture
24432	TSA-1	0-6	7.3	1.09	38.4	8.37	4.00	1.60	0.64	32.0	41.5	36.7	21.8	LOAM
24433		6-12	7.8	1.33	40.2	3.80	6.70	3.50	1.53	2.6	15.1	59.4	25.5	SILT LOAM
24434		12-24	8.1	4.48	42.3	2.88	30.1	18.9	4.66	7.7	11.5	61.2	27.3	SILTY CLAY LOAM
24435	TSA-2	0-6	7.4	0.73	32.2	4.77	1.94	1.45	0.79	52.9	40.5	41.3	18.2	LOAM
24436		6-12	7.5	0.76	31.2	4.48	2.91	1.50	0.78	66.7	33.3	46.7	20.0	LOAM
24437		12-24	7.5	0.85	27.8	4.64	4.10	1.37	0.66	73.5	40.5	43.1	16.4	LOAM
24438	TSA-3	0-6	7.5	0.58	25.4	3.83	1.85	1.24	0.74	61.1	58.7	26.8	14.5	SANDY LOAM
24439		6-12	7.8	0.61	31.3	2.49	3.62	1.33	0.76	60.0	26.9	45.8	27.3	CLAY LOAM
24440		12-24	7.9	0.73	29.2	1.88	4.70	1.27	0.70	59.8	40.5	37.7	21.8	LOAM
24441	TSA-4	0-6	7.6	0.92	28.2	6.47	2.51	1.32	0.62	54.3	64.2	26.7	9.1	SANDY LOAM
24442		6-12	7.5	1.07	27.3	5.96	4.72	1.48	0.64	42.4	58.7	28.6	12.7	SANDY LOAM
24443		12-24	7.7	8.67	27.5	25.4	75.1	20.5	2.89	67.7	38.7	43.1	18.2	LOAM

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available

Inter-Mountain Laboratories, Inc.
2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

MANGUM ENGINEERING
KAYSVILLE, UTAH
MINE: CO-OP

DATE REPORTED: January 8, 1993

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Saturation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Coarse Fragments > 2 mm, % by Vol.	Sand %	Silt %	Clay %	Texture
24432	TSA-1	0-6	7.3	1.09	38.4	8.37	4.00	1.60	0.64	32.0	41.5	36.7	21.8	LOAM
24433		6-12	7.8	1.33	40.2	3.80	6.70	3.50	1.53	2.6	15.1	59.4	25.5	SILT LOAM
24434		12-24	8.1	4.48	42.3	2.88	30.1	18.9	4.66	7.7	11.5	61.2	27.3	SILTY CLAY LOAM
24435	TSA-2	0-6	7.4	0.73	32.2	4.77	1.94	1.45	0.79	52.9	40.5	41.3	18.2	LOAM
24436		6-12	7.5	0.76	31.2	4.48	2.91	1.50	0.78	66.7	33.3	46.7	20.0	LOAM
24437		12-24	7.5	0.85	27.8	4.64	4.10	1.37	0.66	73.5	40.5	43.1	16.4	LOAM
24438	TSA-3	0-6	7.5	0.58	25.4	3.83	1.85	1.24	0.74	61.1	58.7	26.8	14.5	SANDY LOAM
24439		6-12	7.8	0.61	31.3	2.49	3.62	1.33	0.76	60.0	26.9	45.8	27.3	CLAY LOAM
24440		12-24	7.9	0.73	29.2	1.88	4.70	1.27	0.70	59.8	40.5	37.7	21.8	LOAM
24441	TSA-4	0-6	7.6	0.92	28.2	6.47	2.51	1.32	0.62	54.3	64.2	26.7	9.1	SANDY LOAM
24442		6-12	7.5	1.07	27.3	5.96	4.72	1.48	0.64	42.4	58.7	28.6	12.7	SANDY LOAM
24443		12-24	7.7	8.67	27.5	25.4	75.1	20.5	2.89	67.7	38.7	43.1	18.2	LOAM

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available

Inter·Mountain Laboratories, Inc.
2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

MANGUM ENGINEERING
KAYSVILLE, UTAH
MINE: CO-OP

DATE REPORTED: January 8, 1993

Lab No.	Location	Depths	Carbonate %	Organic Carbon %	P mg/kg	K PE meq/l	Alkalinity PE meq/l	Bulk Density g/cm3	Total Kjeldahl Nitrogen %	1/3 bar	15 bar	Available Water Capacity, in/in	Munsell Color Crushed-dry
24432	TSA-1	0-6	45.0	2.3	4.04	0.95	8.23	2.12	0.11	12.4	8.6	0.05	10YR 5/3
24433		6-12	57.4	1.0	0.85	1.25	5.02	1.99	0.06	16.5	9.5	0.14	10YR 7/2
24434		12-24	59.2	0.6	0.38	2.48	3.47	1.98	0.04	15.9	9.9	0.11	10YR 7/2
24435	TSA-2	0-6	48.8	2.0	1.08	0.35	5.25	1.93	0.08	11.4	6.1	0.05	10YR 7/3
24436		6-12	50.0	1.4	0.71	0.23	4.75	1.54	0.05	10.7	4.8	0.03	10YR 7/3
24437		12-24	50.6	1.0	1.42	0.24	3.96	2.24	0.04	10.3	4.5	0.07	10YR 6/3
24438	TSA-3	0-6	23.2	1.4	0.76	0.19	4.13	1.95	0.04	7.0	4.0	0.02	10YR 7/3
24439		6-12	9.2	1.1	0.22	0.20	3.20	2.19	0.03	10.0	6.3	0.03	10YR 7/2
24440		12-24	34.2	0.7	0.27	0.09	3.47	1.89	0.03	10.6	6.0	0.03	10YR 7/2
24441	TSA-4	0-6	27.8	3.4	1.80	0.47	6.45	1.78	0.10	6.9	3.8	0.03	10YR 6/3
24442		6-12	30.6	1.9	1.04	0.45	6.68	1.27	0.06	8.2	4.5	0.03	10YR 6/3
24443		12-24	45.4	2.0	0.27	1.08	2.80	1.88	0.05	10.4	5.4	0.03	10YR 6/3

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble,ABPTA= Ammonium Bicarbonate-DPTA, AAO= Acid Ammonium Oxalate